

Workstream:

Program & Project Delivery

Transformation Management Team

Office of Delivery Workstream

Summary of Recommendations

Workstream Background – The Office of Delivery workstream was initiated in part to assess the Department’s ability to better deliver the projects, programs, services and initiatives being managed by NCDOT staff. The TMT assembled a team of employees with various backgrounds to review functions that better enable project and program delivery. The team was asked to draw on their experience as employees, conduct research, interview NCDOT staff during their assessment of the functions being reviewed. The team also considered the recommendations made by external consulting organizations and industry stakeholders (Dye Management, PBS&J) concerning ways to improve the project delivery process. Below is an executive summary of the recommendations.

Key Assumptions:

- ✓ Primary focus of this workstream is more efficient and accountable delivery processes. The planning, operation and management of “programs” is not the responsibility of this group.
- ✓ This group should report to Chief Operating Officer / Chief Deputy Secretary as they will support the multi-modal delivery functions of NCDOT (Enterprise Focus).
- ✓ Consolidates the functions that better enable project delivery (see functions noted below). The objective here is to minimize the amount of time business units spend in the administration of project delivery and are able to focus on technical delivery of their core business functions

(1) Contracting Execution & Standards - The Program Project Delivery area would be an invaluable resource to many business lines within the Department of Transportation by providing the needed services to assist in the development and procurement of transportation contracts, comparable to the present day services Project Services Unit provides to the Division of Highways. Expansion of roles, responsibilities, and services to assist these business lines are a critical aspect in developing a more productive and efficient workforce for project delivery. Assistance in agreement preparation, review, contract documents, reporting, training, oversight, could be provided to all modal divisions for consistent homogeneous policies and procedures concerning contract procurements.

- ✓ This Office should provide contract procurement and administration services to all NCDOT Units (Traditional & Alternative contracts)
- ✓ This Office should perform final plan and bid package reviews for all Business Units
- ✓ This Office should provide Final Engineer’s estimates for all Business Units
- ✓ Staff the Locally Administered Projects group (Per agreements workstream)
- ✓ Move the Fiscal Agreements staff to this office
- ✓ Implement S.P.E.C.S (Trns*port bidding software) in all 14 Division Offices

- ✓ Workstream be assembled to investigate the current process in regards to utility and non-utility encroachments

(2) Project Management - After evaluating Project Management among various DOT's nationwide, North Carolina Department of Transportation should strongly consider using dedicated Project Executives that would enhance communication, collaboration, and coordination of management activities on major strategic projects. They would be the common thread across our organization and would provide a "go to" person for project information and accountability. The Project Executives would document an overall historical record of decisions made during the project life that would be readily available for trend analysis or audit, with a record that reflects how and why decisions regarding scope, cost, schedule and budget were made. The Project Executive will tie together the delivery team, reinforce and ensure accountability. The project executives would also be an excellent resource to document scope change management. This Office will adopt the project management standards as defined by the Project Management Institute in carrying out its mission.

- ✓ **Project Executives - Strategic Project Delivery**

- Consists of dedicated Project Managers (Project Executives) who will be actively involved in project(s) and will be held accountable, along with Planning, Design and Construction managers, for project delivery
- Professionals will adopt Project Management standards as defined by the Project Management Institute

- ✓ **Program Oversight & Support**

- Consists of dedicated project managers who will monitor, review and report on Division managed programs / projects
- Types of Projects consist of the following:
 - Modal Projects (Rail, Aviation, Public Transportation)
 - Enhancement Projects
 - CMAQ Projects
 - Safety Project
 - Municipal Bridge Projects
 - Statewide TIP (R-4701, R-4067, R-4049...)
 - Division Managed Construction (Secondary Roads, NCMA, SB1005, Contingency, Small Construction, Contract Resurfacing, Economic Development, Access & Public Service, etc.)

- ✓ **Schedule Oversight and Reporting**

- Provide tracking and oversight of schedule data to ensure validity of executive dashboard results
- Manage project modifications and updates in the Project STaRS system
- Facilitate approved business processes changes in the Project STaRS system

- Provide tactical system support for Project Executives and other users of the Project STaRS system
- Develop policy and procedures for system usage
- Ensure consistent and accurate usage of management systems as originally designed (STaRS, HiCAMS, etc.)

✓ **(3) Quality Enhancement** - The following recommendations align Enterprise Level value management functions in an appropriate central location to provide the necessary tools to increase Department accountability, optimum ROI, and life cycle management. The transparency created by providing this program in a clear and “neutral location”, has enormous benefits in building internal and public confidence and support. This Office will manage three distinct functions which continuously support and build upon each other; Project Value Management, Process Improvement and Research Evaluation and Implementation.

✓ **Project Value Management**

- Value Engineering Studies
- Value Engineering Change Processes
- Resource Conservation
- Constructability Reviews
- Post Build Assessments
- Identify key projects for best practices

✓ **Process Improvement**

- Environmental Streamlining
- Continuous Process Improvement
- Policy & Process Evaluation, Implementation and Integration

✓ **Research Evaluation & Implementation**

- Market Research
- New Product and Process Evaluation
- Innovative Construction Practice Studies

(4) Business and Contractual Management – Currently new contractors seeking to become prequalified to bid are confused when directed to call multiple units, and/or need to view multiple websites to determine what is needed / required, both pre and post bid. Logically all functions and requirements pertaining to a contractors prequalification status and his ability to bid should be coordinate closely with the contract preparation, advertisement and letting processes to ensure that NCDOT provides the best service possible for maximum competition. This also applies to DBE/MBE/WBE certifications to assist the contractors during the bidding process and during construction on the reporting of DBE/MBE/WBE contract goals. (One-stop-shop to assist industry partners during the bidding process).

- ✓ Pre-qualification
- ✓ Small, Disadvantaged & Underutilized Business Enterprise Certification
- ✓ Contractor Utilization (Goal Setting, Good Faith)
- ✓ Contract Monitoring and Administration

(5) Centralized Consultant Acquisition - After conducting surveys among Department managers, representatives of private engineering firms, several other state DOT's and like operations in private industry, it is recommended that the Department centralize administrative support functions for supporting the procurement and management of private engineering firms (PEF's). This is based on findings that Department's administrative functions for supporting the procurement and management of private engineering firms (PEF's) are performed by various units and are thus fragmented and lack consistency, units within the Department and its various divisions and PEF's could better communicate and collaborate on project workloads, scopes and available resources, and the Department does not consistently utilize all contracting options and methods available to more efficiently contract and pursue work from PEF's.

- ✓ The Department's administrative support functions for supporting the procurement and management of private engineering firms (PEF's) should be centralized in a Departmental unit.
- ✓ The Department should seek legislation to broaden its authority for the use of professional services to cover all professional services and functions in connection to the planning, design and construction of transportation facilities.
- ✓ The Department should use more simplified and innovative approaches to contracting with PEF's, including Limited Services Agreements (LSA's), programmatic requests for proposals for projects, and incentives for early completion of work.
- ✓ The Department's various units should package more large-scale transportation design efforts into a single task or contract that includes all aspects.
- ✓ The Department should seek approval to raise the contractual limits on professional services that require approval by the Board of Transportation. Approval of contracts up to \$10,000,000 should be delegated to the Deputy Secretary or Highway Administrator, and contracts up to \$1,200,000 should be delegated to division or branch managers.
- ✓ The Department should develop an ongoing communications plan internally and with the various PEF's who may express interest in obtaining work.

NCDOT Transformation Management Team Office of Delivery (a.k.a. Program Project Delivery)



April 7, 2008

Office of Delivery Assessment Background

- Initiated to assess the opportunities available that better enable the delivery of projects, programs, services and initiatives
- Conducted research, interviewed NCDOT staff, stakeholders, business partners, other state DOT's
- Considered the recommendations made by external consulting organizations and industry stakeholders (Dye Management, PBS&J)

Office of Delivery Assessment Team

- Assessment Team
 - Mark Tyler – DOH Operations Accountant
 - Anthony Roper – Division Engineer (Edenton)
 - Randy Garriss – State Contract Officer
 - Jim McMellon – Project Design Engineer
 - Virginia Mabry – Alternative Contracts Project Engineer
 - Ron Allen – Asst. State Roadway Design Engineer
 - Paul Worley - Director – Rail Engineering & Safety
 - Don Voelker – Strategic Planning Director

Structuring Our Review

- Contract Procurement (G.S. 136)
- Project Management
- Quality Enhancement
- Business & Contractual Management Services
- Consultant Acquisition

Key Assumptions

- Primary focus of this workstream is more efficient and accountable **delivery** processes.
- The planning, operation and management of “programs” is **not** the responsibility of this group.
- This group should **report** to Chief Operating Officer / Chief Deputy Secretary as they will support the **multi-modal** delivery functions of NCDOT (Enterprise Focus).
 - ◇ **Structured to be flexible and responsive to future Transportation agendas**
- Consolidates the **functions** that better enable project delivery (see functions noted below). The objective here is to minimize the amount of time business units spend in the administration of project delivery and are able to focus on technical delivery of their core business functions

Contract Procurement (G.S. 136)

- **Findings**
 - Discrepancies in the development and procurement of multi-modal transportation contracts within NCDOT
 - Assistance in agreement preparation, review, contract documents, reporting, training, oversight, could be provided to all modal divisions for consistent homogeneous policies and procedures concerning contract procurements.
- **Recommendation** – Consolidate Multi-modal Contract Execution and Standards Functions
 - This Office should provide contract procurement and administration services to all NCDOT Units (Traditional & Alternative contracts)
 - This Office should perform final plan and bid package reviews for all Business Units
 - This Office should provide Final Engineer's estimates for all Business Units
 - Move the Fiscal Agreements staff to this office
 - This Office should staff the Locally Administered Projects group (Per agreements workstream)
 - Implement S.P.E.C.S (Trns*port bidding software) in all 14 Division Offices

Project Management

- **Findings**

- After evaluating Project Management practices among various DOT's nationwide, NCDOT has opportunities to adopt project management as a core business practice. This would enhance communication, collaboration, and coordination of management activities on major strategic projects.

- **Recommendation – Consolidate Multi-modal Project Management Functions**

- **Strategic Project Delivery**

- * Dedicated Project Executives who will be actively involved in designated strategic projects and will be held accountable, along with Planning, Design and Construction managers, for project delivery
- * Professionals will adopt Project Management standards as defined by the Project Management Institute
- * Manage project schedules, project modifications and updates in the system

- **Program Oversight and Support**

- * Monitor, review and provide executive level reporting on all NCDOT programs
 - Schedule, budget, costs, etc.

Project Management

- **Recommendations (cont.)**
 - **Schedule Oversight and Reporting** (Project STaRS workstream)
 - * Provide tracking and oversight of schedule data to ensure validity of executive dashboard results (Enterprise Data Management)
 - * Facilitate approved business processes changes in project management tracking systems (Project STaRS - SAP, HiCAMS,)
 - * Provide tactical system support for Project Executives and other users of project management systems
 - * Develop policy and procedures for system usage
 - * Ensure consistent and accurate usage of project management systems

Project Management

- **Recommendations (cont.)** - This Office should adopt the project management standards as defined by the Project Management Institute in carrying out its mission.

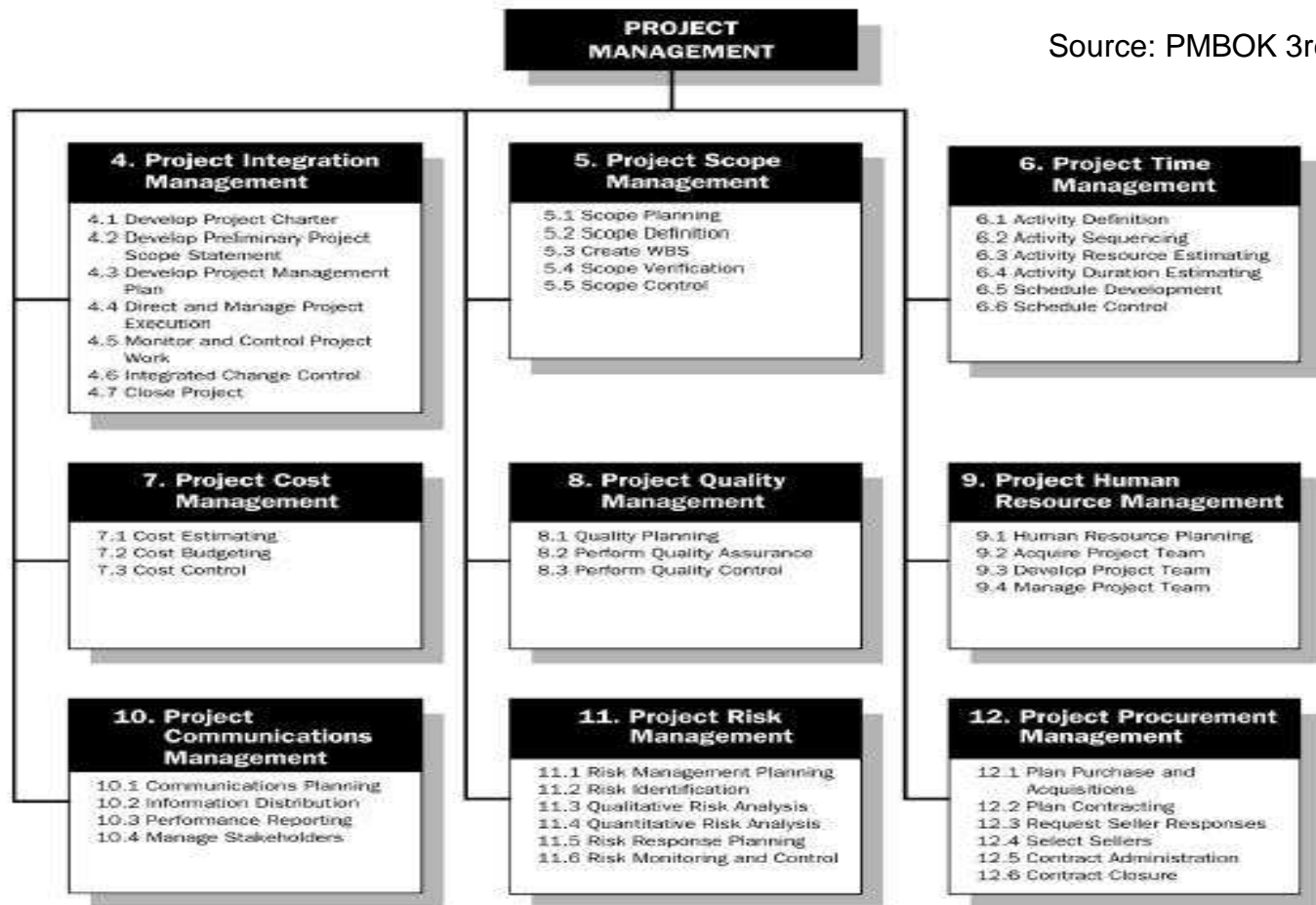


Figure 1-1. Overview of Project Management Knowledge Areas and Project Management Processes

Knowledge Area Processes	Project Management Process Groups				
	Initiating Process Group	Planning Process Group	Executing Process Group	Monitoring & Controlling Process Group	Closing Process Group
1. Project Integration	Develop Project Charter 3.2.1.1 (4.1) Develop Preliminary Project Scope Statement 3.2.1.2 (4.2)	Develop Project Management Plan 3.2.2.1 (4.3)	Direct and Manage Project Execution 3.2.3.1 (4.4)	Monitor and Control Project Work 3.2.4.1 (4.5) Integrated Change Control 3.2.4.2 (4.6)	Close Project 3.2.5.1 (4.7)
5. Project Scope Management		Scope Planning 3.2.2.2 (5.1) Scope Definition 3.2.2.3 (5.2) Create WBS 3.2.2.4 (5.3)		Scope Verification 3.2.4.3 (5.4) Scope Control 3.2.4.4 (5.5)	
		Activity Definition 3.2.2.5 (6.1) Activity Sequencing 3.2.2.6 (6.2) Activity Resource Estimating 3.2.2.7 (6.3) Activity Duration Estimating 3.2.2.8 (6.4) Schedule Development 3.2.2.9 (6.5)		Schedule Control 3.2.4.5 (6.6)	
7. Project Cost Management		Cost Estimating 3.2.2.10 (7.1) Cost Budgeting 3.2.2.11 (7.2)		Cost Control 3.2.4.6 (7.3)	
		Quality Planning 3.2.2.12 (8.1)	Perform Quality Assurance 3.2.3.2 (8.2)	Perform Quality Control 3.2.4.7 (8.3)	
		Human Resource Planning 3.2.2.13 (9.1)	Acquire Project Team 3.2.3.3 (9.2) Develop Project Team 3.2.3.4 (9.3)	Manage Project Team 3.2.4.8 (9.4)	
10. Project Communications Management		Communications Planning 3.2.2.14 (10.1)	Information Distribution 3.2.3.5 (10.2)	Performance Reporting 3.2.4.9 (10.3) Manage Stakeholders 3.2.4.10 (10.4)	
		Risk Management Planning 3.2.2.15 (11.1) Risk Identification 3.2.2.16 (11.2) Qualitative Risk Analysis 3.2.2.17 (11.3) Quantitative Risk Analysis 3.2.2.18 (11.4) Risk Response Planning 3.2.2.19 (11.5)		Risk Monitoring and Control 3.2.4.11 (11.6)	
		Plan Purchases and Acquisitions 3.2.2.20 (12.1) Plan Contracting 3.2.2.21 (12.2)	Request Seller Responses 3.2.3.6 (12.3) Select Sellers 3.2.3.7 (12.4)	Contract Administration 3.2.4.12 (12.5)	Contract Closure 3.2.5.2 (12.6)

Table 3-45. Mapping of the Project Management Processes to the Project Management Process Groups and the Knowledge Areas

Source: PMBOK 3rd English

Quality Enhancement

- **Findings –**
 - NCDOT has value management functions in multiple locations throughout the Department. Value management activities consist of projects, process and research related functions.
- **Recommendation –** Consolidate Quality Enhancement functions into a single group to manage the following functions:
 - **Project Value Management**
 - * Value Engineering Studies
 - * Value Engineering Change Processes
 - * Resource Conservation
 - * Constructability Reviews
 - * Post Build Assessments
 - * Identify key projects for best practices

Quality Enhancement

- **Recommendation — (cont.)**
 - **Process Improvement**
 - * Environmental Streamlining
 - * Continuous Process Improvement
 - * Policy & Process Evaluation, Implementation and Integration
 - **Research Evaluation & Implementation**
 - * Market Research
 - * New Product and Process Evaluation
 - * Innovative Construction Practice Studies

Business & Contractual Management Services

- **Findings**

- Currently new contractors seeking to become prequalified to bid are confused when directed to call multiple units to determine what is needed / required, both pre and post bid.
- Logically all functions and requirements pertaining to a contractors prequalification status and his ability to bid should be coordinate closely with the contract preparation, advertisement and letting processes
- This also applies to DBE/MBE/WBE certifications to assist the contractors during the bidding process (One-stop-shop to assist industry partners during the bidding process)

- **Recommendations**

- Pre-qualification
- Small, Disadvantaged & Underutilized Business Enterprise Certification
- Contractor Utilization (Goal Setting, Good Faith)
- Contract Monitoring and Administration

Consultant Acquisition

- Findings

- NCDOT's administrative functions for supporting the procurement and management of private engineering firms (PEF's) are performed by various units and are thus fragmented and lack consistency,
- Units within the Department and PEF's could better communicate and collaborate on project workloads, scopes and available resources, and
- Department does not consistently utilize all contracting options and methods available

Department Positions Managing/Administering Consultant Services				
Unit	Estimated PEF Services Contracted Annually	PEF Coordinator Level/Classification	Number Positions Involved	% Time
Highway Design	\$25,000,000	TES-III	12 FTE	100%
PDEA	\$18,200,000	TES-III	4	100%
Rail	\$14,400,000	TES-II	4	40%
Locations & Surveys*	\$6,000,000	TES-II	4	75%
Operations	\$6,000,000	TSE-IV	1	15%
Public Transportation	\$4,000,000	Trans Prog Consult III	1.5 FTE	100%
Traffic Engineering	\$1,370,000	Trans Eng Mgr I	5	10%
Right of Way	\$1,000,000	R/W Consult Coord	1	100%
Aviation	\$350,000	TES-II	2	60%
Photogrammetry*	\$200,000	Photogrammetric Eng II	1	5%
Construction Unit	Thru Ops LSA	TE-III	1	40%
External Audit	n/a	Internal Audit Mgr I	8	90%
Facilities Management	Unknown.	Facility Const Eng II	1	35%
* = Included in Highway Design Branch total.				

Consultant Acquisition

- **Recommendations**
 - **Centralize** NCDOT's **administrative support functions** for the procurement and management of private engineering firms (PEF's).
 - **Seek legislation** to broaden NCDOT authority for the use of professional services to cover planning, design and construction of **all** transportation facilities.
 - The Department should use more **simplified and innovative approaches** to contracting with PEF's, including Limited Services Agreements (LSA's), programmatic requests for proposals for projects, and incentives for early completion of work.
 - The Department's various units should **package more large-scale** transportation design efforts into a single task or contract that includes all aspects.
 - The Department should seek approval to **raise the contractual limits** on professional services that require approval by the Board of Transportation. Approval of contracts up to \$10,000,000 should be delegated to the Deputy Secretary or Highway Administrator, and contracts up to \$1,200,000 should be delegated to division or branch managers.
 - The Department should develop an ongoing **communications plan** internally and with the various PEF's who may express interest in obtaining work.

Benefits

- **Contract Procurement (G.S. 136)**
 - Risk limitation through contract standardization
 - Consolidation of contract bid data. Data analysis benefit.
 - Benefit to business partners through contract standardization
- **Project Management**
 - Institutionalization of Project Management Principles and Practices
 - Provides a Global View of the Department's Initiatives and Projects
 - Optimization of Resources
- **Quality Enhancement**
 - Formal mechanism for the feedback of lessons learned and process improvements into NCDOT business processes
 - Lead to efficiencies, improved collaboration, cost savings within the PPSI being managed (Actual efficiencies should be quantifiable and reportable as recommendations are implemented and assessments completed)
- **Business & Contractual Management Services**
 - Business Process efficiencies between Contract development, advertisement and letting and other vendor management functions (Prequalification, certifications, contractor utilization)
 - Benefits to business partners as we would have one stop shopping for vendor relationship management
- **Consultant Acquisition**
 - Anticipated savings through better negotiations for services within a given technical discipline
 - Improved delivery through enterprise linkage and communication of individual Limited Services Agreements
 - Improved delivery through packaged (large scale) transportation design efforts (versus segregated design approach)
 - Internal efficiencies through the reduction in review of contract level detail

Other Considerations

- Other Functions that impact delivery.
 - ROW
 - Utilities
- Special Thanks
 - Team
 - Responses from employees, stakeholders, business partners